IOWA CONSERVATIONIST

Volume 10 | APRIL 15, 1951 | Number 4

IOWA FISH BOOK PUBLISHED

SPEAKING OF CATFISH

By Harry M. Harrison
Fisheries Biologist

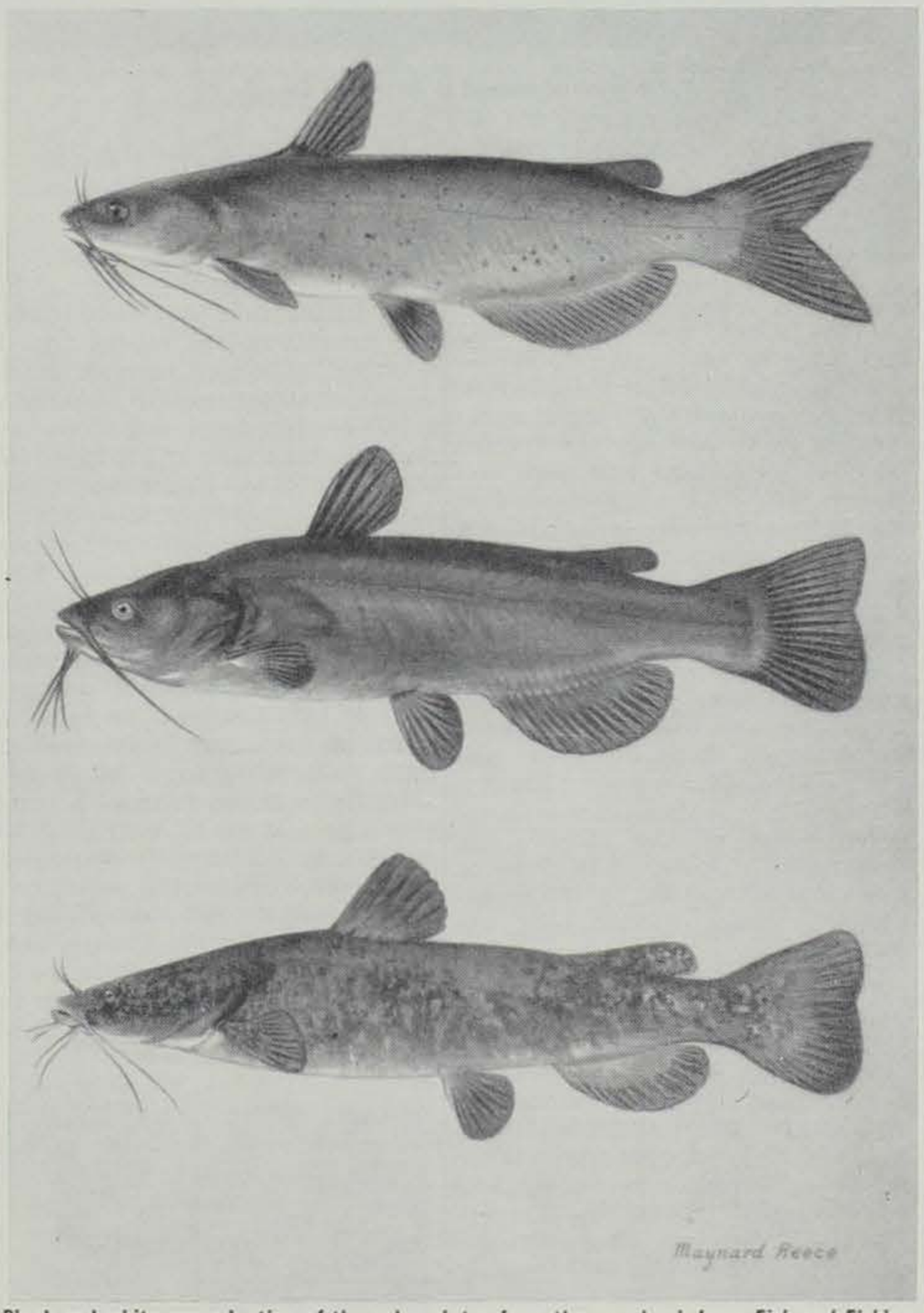
Spring! Once more a quarter of a million of Iowa's fishermen are thinking about channel catfish. Where to try for 'em first. The best bait for early fishing. What other baits to have ready just in case old reliable doesn't appeal. And oh, yeah, will there be any fish up the river this year.

Speaking of fish being up the river, now would be a good time to report some of the findings on the catfish tagging work that the Conservation Commission has carried on for the past several years.

Although our tagging studies have not given us as complete a story on the life habits of the channel cat as we would have liked, it has provided us with much valuable information. We have learned something of catfish movement in inland streams, something of their growth under natural conditions, and something of the value of fishways in dams for providing fishing upstream. Much of this information is rather striking and contrary to popular belief.

Regarding their movements or migrations, if you please, our studies indicate that for the most part catfish just don't move great distances. The longest movement from the point of tagging was 32 miles downstream and took place in a little over a year's time. Another fish had moved 28 miles upstream in a matter of a month. Other movements by individual catfish over lesser distances, but still of interest, include one fish downstream 20 miles, two fish downstream 16 miles, two upstream 14 miles and one upstream 12 miles. All other fish that were taken away from the area of tagging had journeyed less than ten miles. These movements represent the returns from only a small percentage of the tagged fish and are outstanding only by the fact that they had moved. The important infor-

(Continued on page 126)



Black-and-white reproduction of the color plates from the new book *Iowa Fish and Fishing*. From top to bottom, channel catfish, black bullhead, flathead catfish.

COLOR PLATE CHARACTERS

By Maynard Reece

Fish are definitely characters, and while painting the color plates for *Iowa Fish and Fishing* I had an unusual opportunity to study temperament and other characteristics of my scaly models.

Most fishermen know that as soon as a fish is pulled out of water the color fades, fins curl and dry up, and within a few minutes their trophy has lost much of its original beauty. To see this natural color and body structure, one must observe the fish under water.

The color plates for the new book *Iowa Fish and Fishing* being distributed by the Conservation Com-

(Continued on page 126)

The Iowa Conservation Commission has published and has available 10,000 copies of a new book *Iowa Fish and Fishing*. The 248-page clothbound "Fishing Bible For Iowans" is available through the Iowa Conservation Commission offices at $2.00 per copy. Illustrated with twenty-four color portraits of Iowa's major game fish, plus numerous black-and-white illustrations, the new book will be an important addition to every fisherman's library.

In announcing the new book the Commission stated: "It is the purpose of this book to help Iowans enjoy more fully the fishing opportunities offered in this state and to answer under one cover the multitute of fish and fishing questions that reach the Conservation Commission each year." In pursuing this aim, the authors have pointed at three major objectives. Where to fish, identification of fish caught, and how to catch them.

The text of *Iowa Fish and Fishing* was written by James R. Harlan, Assistant Director of the Conservation Commission and editor of the *Iowa Conservationist*, and E. B. Speaker, Superintendent of Biology, and long-time Superintendent of the Fisheries section of the Iowa Conservation Commission.

The major fishing waters including rivers, trout streams, artificial lakes, natural lakes, and river oxbows, are located and described. All fish found in the state are described and their life stories presented with especial emphasis on angling species and bait minnows.

Strange as it may seem, fisheries biologists have found that a great majority of the adult fish in Iowa waters are not caught by fishermen, but die of old age. With the thought of helping anglers catch as many of these fish as possible, *Iowa Fish and Fishing* goes into primer detail on how to catch fish that will bite the hook. The sections on angling have been prepared by outstanding fishermen, specialists in angling for each particular species.

(Continued on page 127)

Iowa Conservationist

Published Monthly By The
IOWA CONSERVATION COMMISSION
East 7th and Court—Des Moines, Iowa
(No Rights Reserved)

WM. S. BEARDSLEY, Governor of Iowa
BRUCE F. STILES, Director
JAMES R. HARLAN, Editor

CIRCULATION THIS ISSUE.....44,000

Entered as second class matter at the post office at Des Moines, Iowa, September 22, 1947, under the Act of March 24, 1912.

Subscription rate.....40c per year

3 years for $1.00

Subscriptions received at Conservation Commission, East 7th and Court, Des Moines, Iowa. Send cash, check or money order.

THE 4-H CLUB—A POTENT CONSERVATION FORCE

Created 37 years ago as a means of educating the future farmers of the nation in sound agricultural methods and to give rural youth some of the cultural and social benefits enjoyed by his cousin in town, the 4-H Club movement has become one of the potent conservation forces in America.

The protection of soils, waters, forests, and wildlife plays an integral part in the program of the 4-H Club. Under the supervision of the Agricultural Extension Service, the young people learn the most modern farming methods designed to hold the water and soil on the farm. Practically all of these practices benefit farm wildlife; any land-use practice which maintains soil fertility, which encourages the establishment of permanently vegetated areas, and which discourages soil erosion, nearly always results in more productive wildlife habitat.

Much of the emphasis on conservation in the 4-H Club movement may be traced directly to the personal interest and financial assistance given the program by Mr. Charles L. Horn of Minneapolis, Minnesota.

In 28 states, a total of 208,585 members are now engaged in direct wildlife management projects: planting shrubs, trees, food and cover patches; leaving grain for wildlife use during the winter months; building birdhouses and bird feeding stations; and protecting fencerows which formerly had been burned or cleared.

Many of these youths gained their wildlife management know-how at some 45 camps, financed by Mr. Horn. Scholarships are granted to 5,000 deserving young men and women each year to enable them to attend these camps. In addition to these camps, 712 others present one or more courses by soil conservationists, wildlife technicians, and foresters.

(Continued on page 128)

Jim Sherman Photo.
Pike's Peak (in right background) from the spectacular lookout in the new National Mounds Monument in Allamakee County.

GEOLOGY IN PIKE'S PEAK STATE PARK

By Charles S. Gwynne
Associate Professor
Department of Geology
Iowa State College

Pike's Peak State Park, near McGregor in northeastern Clayton County, is notable in many ways. It is of great historic interest, overlooking as it does the waterways traveled by Indians and early explorers, and by modern commerce. Its Indian mounds are plain for all to see and it is in the region of early settlement in Iowa. It has a great variety of wildlife. Every visitor will agree that the lookout at the summit affords one of the grandest views to be seen in all America. And this is in an area noted for its scenic qualities, "the Switzerland of Iowa." Finally, what so few realize, in it are exposed some of the oldest rock formations of Iowa. Only those of Gitchie Manitou Park, in the northwestern corner of the state, are older.

At the foot of the bluff, 450 feet below the lookout, flows the Mississippi. Across the river is the lowland through which the Wisconsin River enters. On a terrace or "second bottom" above the river stands the city of Prairie du Chien, Wisconsin. The skyline, across and up and down the river, is level. Rocky bluffs can be made out crowning these bluffs and the hills in the distance. The lowland of the river attracts attention, for there is much water in ponds and sloughs, besides that in the main channel of the river.

It is no wonder that the visitor marvels at all he sees. He would be still more pleased if he became acquainted with the story of the origin of this marvellous region.

Following the trail from the summit to Bridal Falls one may see the record of the earliest part of this story. For most of the way along the path which winds down the hill near the river one crosses ledge after ledge of sandstone. This sandstone continues along the path to the falls and well toward the summit on the return trip. It is a soft rock, and in most places crumbles rather easily. Some of it it white, but here and there are pockets that are a brilliant red. There are other places where it is brown or orange. In fact, there is quite a range in the color of the sand.

This is a formation known as the St. Peter sandstone. It was named from the town of St. Peter west of Minneapolis. There it was first studied by scientists. It underlies much of Iowa and Illinois and extends into Wisconsin and Minnesota. It is in the form of a broad sheet, in places as much as 200 feet thick. In Iowa the formation dips gently to the southwest, getting deeper and deeper. It is also covered with greater and greater thickness of other rocks. In the southwest corner of the state the top of it is about 3,000 feet below the surface.

This rock is composed mostly of the mineral quartz, in the form of sand grains. The sand was deposited in one of the ancient seas which covered this part of the world in remote geologic times. The grains of sand, if examined with a magnifying glass, will be found remarkably rounded. Evidently they were blown about, and washed to and fro by the waves in order to have acquired this roundness.

Some parts of the rock contain a greenish mineral called glauconite. This weathers very easily and colors the sand grains with iron compounds which are brilliant shades of red, yellow and brown.

Some of the St. Peter sandstone is such a pure quartz sand rock that it can be used in the manufacture of glass. Much of it is mined for this purpose at La Salle, Illinois. It is also mined at Clayton, Iowa, for use as foundry sand.

This formation is also a valuable reservoir of water for many communities in Iowa and elsewhere in the Midwest. Water falling as rain in the area of outcrop soaks into the ground and gets into the porous sandstone below. There it travels "down the dip" through minute openings. Wells drilled through overlying layers of rock find this water under pressure and so it rises toward the surface, forming an artesian well. The water may even flow at the surface.

The St. Peter sandstone is overlain at Pike's Peak by other layers of rock which were deposited as sediments in later seas. The upper one, right beneath the soil, is a very solid limestone, which forms the "rim rock" of the bluffs along the river for miles. This contains the imprints of the shells of animals which lived in the sea when the sediment was being deposited.

For millions of years after the seas had withdrawn, this part of the continent was land and subject to erosion by wind and water. Big rivers and their tributaries developed, along with the valleys in which they flow. The Mississippi established its course in a deep valley cut in the bedrock, part of

(Continued on page 128)

The Mississippi River valley, looking upstream, as seen from Pike's Peak State Park.

Jim Sherman Photo.
How can one set a value on the V of migrating geese, high in the blue sky?

* * * * * *

SOME WILDLIFE VALUES

By Walter P. Taylor

How can one set a value on a smile, a pleasant word, a lovely sentiment? Equally impossible is it, in truth, to put a value on a frosty fall morning, the maples and oaks in flaming autumn colors, the V of a migrating flock of Canada geese high in the blue, the sharp call of worried rail in the marsh, the whir-r-r of a covey of bobwhites getting up fast before dog and gun.

Nevertheless, in our crass and materialistic human fashion, we try our best to measure these things in dollars and cents.

With wildlife resources this is perhaps not so difficult as it sounds. At least Dr. Ira N. Gabrielson, when he was director of the U. S. Fish and Wildlife Service, had the temerity to try it. The results are impressive and interesting.

According to these estimates the waterfowl in the United States exemplify a capitalized value of 1.5 billion dollars. Fur animals total an additional .4 billion. The worth of big game, on a capitalized basis aggregates 1.3 billions of dollars more. This makes a total for wildlife exclusive of fisheries of 3.2 billions, or $3,200,000,000. Quite a sizeable asset, even for our rich Uncle!

Fisheries resources make up an even greater total. Game fish are estimated to be worth 5 billion dollars, and the commercial fishes 5.8 billions, making a total for the fisheries portion of American wildlife resources of 10.8 billions.

Now observe the total of the two sorts of wildlife, the upland items, waterfowl, fur and big game, $3,200,000,000, and the fisheries, $10,800,000,000—a grand total of 14 billion dollars! Note that the small game, the insectivorous birds, and many other wildlife assets are not

(Continued on page 128)

Wardens Tales

Shop Talk From the Field

Gene Hlavka, conservation officer in charge of Jasper and Poweshiek counties, writes: "Last month I was walking along Arbor Lake. It was quite windy and I noticed a muskrat working its way down the shore line. The muskrat would break through the edge of the ice, dive into the hole and reappear through the ice a little farther down the lake. After one dive I noticed the muskrat came on shore with a small fish in its mouth. It climbed a small bank and began to eat the fish. After watching some time I wondered if I could get close enough to identify the kind of fish it was eating. The rat paid no notice to my approach and I slipped my gloved hand down, grasped the tip of the rat's tail and flipped it a short way out onto the ice. As it ran desperately for open water I could see that the left front foot was gone. Returning my attention to where the rat had been on shore, I found the partly decomposed fish that the muskrat had been eating. It was a golden shiner."

Jim Becker, conservation officer in charge of Buchanan and Delaware counties, writes: "A hunting pal of mine and I sighted a flock of ducks on a bar down the river. We walked several hundred yards downstream, then, following the tactics used by most jump-shooters, we began creeping and crawling to the riverbank. When we were but a short distance from the edge of the river my companion excitedly signaled me that the ducks were to our left, so we retraced our course and again sneaked up the riverbank about 50 yards upstream. As we got to our feet to shoot, I caught the flash of rising mallards down the river where we had originally crept in. I pulled down on a lone single still within range, and heard my hunting companion on my upstream side cut loose. Checking the direction of his swing I observed an old teakettle, well peppered with No. 6 shot on the sand bar. 'Jim,' my hunting companion, exclaimed, 'you know that teakettle was 12 feet in the air when I knocked it down'."

Bill Ayers, conservation officer in Wright and Hancock counties, takes us back to the pheasant season with this yarn. "While on pheasant patrol I spotted a car sitting beside a dredge ditch. It was near time to quit shooting and I took a run around the section, checked some other hunters, and returned to about a quarter of a mile from the parked car and watched the hunters through my binoculars. It was now after shooting time and the hunters appeared to be standing around in the cornfield as if waiting for someone. By and by they started to walk to their car and when they were almost to the roadside they saw me approaching so they stopped and started taking their guns down. After I had checked their licenses, we were having a friendly chat, and one of the men commented what a fine looking dog I had. It occurred to me that they might like to see him in action. I sent him into the area from which they approached and he immediately got birdy. When he was about 40 feet out in the field from the car, he looked down and then up at me, then down again and back at me. He had a puzzled look on his face if ever a dog had one. I said fetch, and here he came with a nice warm dressed hen pheasant. The balance of the story is on record at Justice of the Peace O. E. McGahey's office in Clarion.

The earliest reference to a raccoon found in literature is by Captain John Smith in 1612 when describing the animals of Virginia.

National Audubon Society Photo.
The new Audubon Centennial Stamps are miniature reproductions of Audubon originals. The original oil painting of the ivory-billed woodpecker is shown in the background.

* * * * * * * * * * * *

AUDUBON SOCIETY ISSUES CENTENNIAL STAMP SET

A flamingo stalking along a mud flat, ivory-billed woodpeckers searching for grubs, and a snowy owl against a blue-black sky are a few of the dramatic subjects portrayed in the full-color Audubon Centennial Stamps recently issued by the National Audubon Society.

John H. Baker, president of the society, says, "These beautiful miniatures of Audubon's most colorful paintings are published to commemorate the centenary of the famous naturalist's death in 1851. His bird portraits have never before been reproduced in stamp form."

The Audubon Society recommends that the Audubon Centennial Stamps, consisting of 24 miniatures to a set, be used to decorate letters, envelopes and packages "in order that Audubon paintings will receive during the Centennial Year the public attention which they merit."

Proceeds from the sale of Audubon Stamps will be devoted to the conservation work of the National Audubon Society. They are being sold at the rate of two sets for one dollar and are available either from the headquarters of the society at 1000 Fifth Avenue, New York 28, N. Y., or from local Audubon organizations throughout the continent.

John James Audubon, pioneer artist and naturalist, died in New York City on January 27, 1851, after completing the 435 paintings for his monumental "Birds of America," which brought him world-wide fame.

Mr. Baker states, "Audubon was one of the first Americans to express concern about the depletion of our native wildlife. He inspired the birth of the conservation movement in America. The first Audubon Society was organized in 1886. Its successor has grown to be one of the largest and most influential organizations dedicated to conservation of natural resources. Therefore, we take pride in issuing a set of Audubon Centennial Stamps as a tribute to the great naturalist's life and work."

Jim Sherman Photo.
The spring goose flight on the Missouri River was one of the most spectacular in recent years. More than 10,000 persons visited Forney Lake area in a single day to see and hear the blues and snows.

* * * * * * * * * * * *

THOUSANDS VIEW GOOSE FLIGHT

More than 10,000 persons jammed the Forney Lake area near Thurman, Sunday, March 25, for what Iowa conservation officers termed "a real show" of waterfowl.

It was the greatest crowd that ever came to see a flight. There were people from several states here.

About 3 p.m. automobiles were jammed bumper-to-bumper for about 10 miles. The highways were packed with cars between Forney Lake and Thurman to the east, and Forney Lake and Bartlett, to the north.

"We counted about 900 cars at one time," Conservation Officer Ward Garrett said. It took state highway patrolmen and conservation officers about three hours to straighten out the traffic jam.

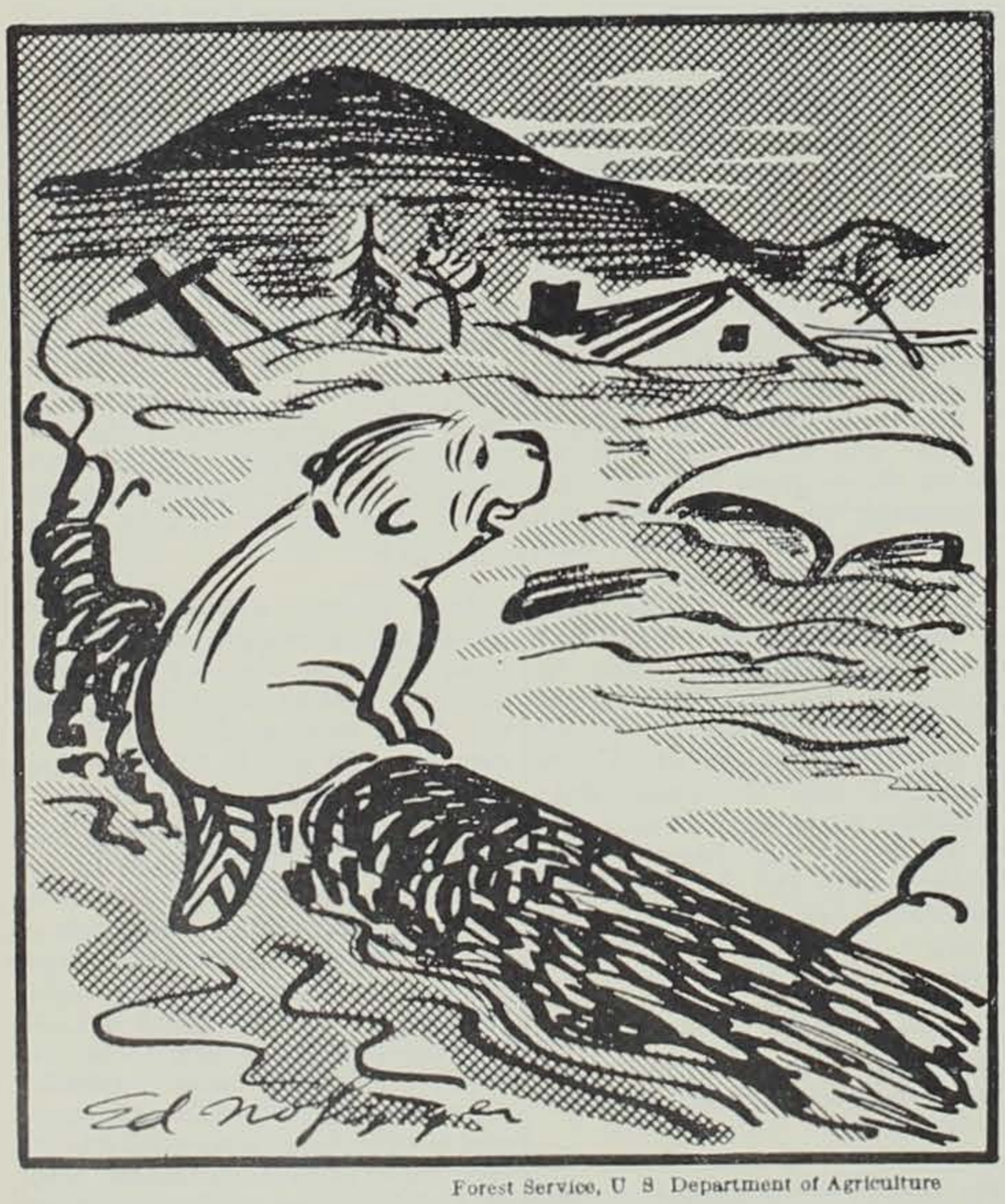
"I would conservatively say there were 10,000 people in the area. And they saw a real show," Garrett added. "There were a tremendous amount of geese—around 300,000, I would say."

The wildfowl, including large concentrations of ducks, began leaving the Forney area Saturday night on their northward jaunt. But, thousands of others arrived Sunday from Missouri.

Garrett said the main concentrations of geese will be gone from here by Wednesday. The flocks are stopping at Onawa and Sioux City on their long flight into northern Canada.—*Council Bluffs Nonpareil.*

"JOE BEAVER"

By Ed Nofziger



Forest Service, U S Department of Agriculture

"There's no water shortage here—It's a shortage of cover on the watershed."

GREY FOX LOSES TO 83-YEAR-OLD BATTLER

This is the story of an elderly gentleman and a crazy fox that was really crazy.

The cast includes William Sweet, 83, Dakota City, and a lean grey fox who had blown its top with a case of rabies.

The time is Sunday morning, a cloudy day with a temperature a little above freezing. The setting is Sweet's home near the mill race on the east branch of the Des Moines River.

The action begins with the entrance of Reynard, the crazy fox. Sweet and his son-in-law, Chet Severson, Dakota City, were standing in Sweet's yard when Reynard loped around the corner of the house and came towards the two men.

The fox moved swiftly and leaped without warning at Sweet, catching him on the arm midway between the elbow and the shoulder. The fox bruised Sweet's arm but didn't break the skin through the heavy mackinaw the elderly man was wearing.

The fox dropped from Sweet's arm and took off across the road towards the bridge. Sweet and Severson returned to the house thinking it was the last time they would see the fox.

Approximately 20 minutes later, however, along about 10:30 a.m., Reynard loped back across the road and came through the brush along the river past the window of Sweet's home. The two men saw him but by the time Severson could get a good shot at the fox, he was out of sight. Severson pumped two shots from a .22 rifle after him just to try to scare him.

The plot thickened along about 4 p.m. when Sweet went out along the dam to check the height of the water. Sweet had walked out to the broken place in the middle of the dam and was returning when the fox came at him and then ran away to the land end of the dam and returned. The fox made one dive at Sweet catching him by the end of his coat and then dived into a hole.

Sweet stalked up to the hole and waited for the fox. When it lunged out Sweet lunged at it and grasped it by the throat.

Sweet choked the fox to death.

A call to Severson brought Sweet's son-in-law with a knife to cut the fox's throat. Severson did the job but the fox was long gone dead.

The head of the fox was taken to the laboratories at Ames by Dr. L. E. Mosbach, Humboldt veterinarian, for a rabies check. Mosbach said the laboratory reported the rabies test as positive.

Sweet received a $3 bounty on the fox from the county.

Sweet's only comment on the struggle with the fox was:

"It wasn't much of a fight after I got my hands on him!"—*Humboldt Independent.*

* * * * * *

Humboldt Independent Photo.
William Sweet, Dakota City, demonstrates how he won the deciding fall with a rabid grey fox.

FISHER RETURN TO MAINE

The fisher—a large and handsome relative of the weasel and mink—has re-established itself in Maine, according to a report made to the U. S. Fish and Wildlife Service by the Maine Cooperative Wildlife Research Unit.

The fastest animal in trees, the fisher is a voracious predator of squirrels and other small creatures, and is completely fearless. His lack of fear for man and dog makes it comparatively easy to kill him with trap or gun, since he makes little effort to keep out of sight. The fisher has always been sought after for his valuable fur, which led to his extirpation from much of his former range—including Maine.

POND AND RIVER TURTLES

By Kenneth D. Carlander and Robert B. Moorman
Iowa State College

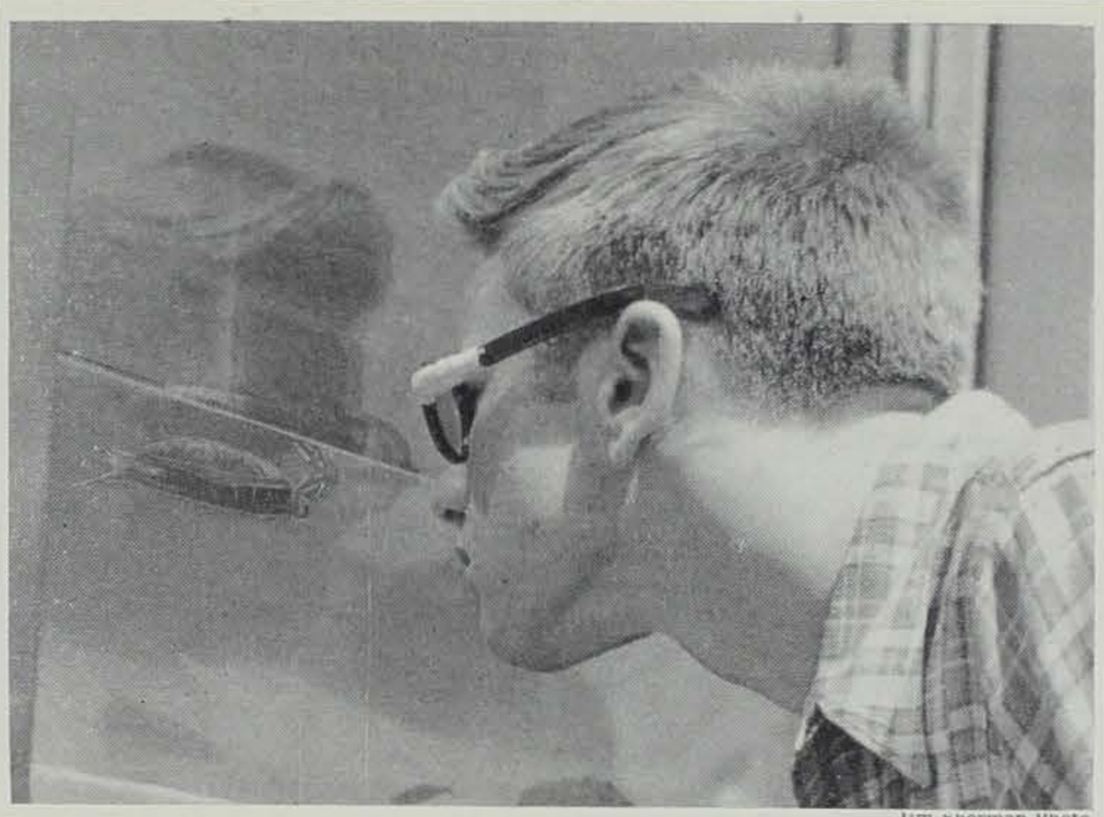
The so-called mud turtles that we so frequently see sunning themselves on logs in ponds, sloughs, or lakes are usually painted turtles. *(Chrysemys picta bellii)*. These little turtles are the most common species in the state and are found in suitable habitats throughout Iowa. The principal requirements for a suitable habitat seem to be warm water, without strong current, and with an abundance of aquatic plant growth. A moderate amount of pollution is tolerated and painted turtles may sometimes be quite abundant where the water is very foul smelling.

The painted turtle gets its name from the fact that the plastron is bright yellow or red with a big black design in the center. There are also red marks along the margin of the carapace. In older specimens the colors may be somewhat dulled. The tail, neck, head, and legs are black with yellow stripes. The carapace is smooth and rather low-domed. In newly hatched young there is a distinct ridge or keel down the back, but this is lost as the turtle grows older.

Female painted turtles apparently grow faster and reach a larger maximum size than the males. An average male may have a carapace 4.6 inches long compared to 5.6 inches for a female. The largest male in several hundred painted turtles which have been measured was 6.9 inches long and the longest female 7.36 inches. The male turtles can be distinguished from females by the fact that when the tail is extended the anus is beyond the carapace in the male, but under the carapace in the female. The plastron of a male turtle is concave while that of a female is usually flat or convex. These two characteristics will serve to distinguish the sexes of most turtles. The male painted turtle has another special characteristic. His fingernails (or rather the claws on his forelegs) are two to three times as long as his toenails or as the fingernails of the female. These long fingernails are used to tickle the chin and head of the female during courting, with the male swimming backward in front of the female.

In nesting, usually in June or early July, the female selects a site, usually in an open dry area, and digs a hole with her hind legs. From 5 to 15 eggs, usually 6 to 7, are laid in the burrow which is then packed with dirt. It is rather interesting that the only detailed studies of the nesting of painted turtles were made here in Iowa, near the Okoboji Lakes by Dr. F. A. Stromsten in 1923. The record number of eggs in a nest, 15, is also an Iowa contribution.

Although the painted turtle is largely an aquatic species and is very cautious, quickly diving when startled, they sometimes leave water and travel overland to nest or to move to new areas. Large numbers are killed on our highways during these migrations.



Jim Sherman Photo.
The familiar painted turtle gets its name from the fact that the plastron is bright yellow or red with a black design in the center. These little turtles are our most common species and are found throughout Iowa.

* * * * * * * * * * * *

Troost's turtle *(Pseudemys scripta troostii)* is quite similar to the painted turtle in general appearance and in habits. It, however, lacks the red coloring on the carapace and plastron. The best single distinguishing feature is an oval blood-red area behind the eye. The plastron is usually yellow with some dark spots. Troost's turtle may also be larger — occasional specimens having carapaces up to 11 inches long. This turtle has been found in Iowa only in the Mississippi River in Des Moines and Lee counties.

Another species which has come up the Mississippi River and has been found only in the southeastern corner of the state is the common mud turtle *(Kinosternon subrubum)*. It is possible that this species should not be considered as an Iowa species since it has been collected only once and since its normal range is mostly to the south. This turtle differs from all other Iowa turtles in the fact that the plastron consists of five pairs of shields preceded by an unpaired shield. The snapping turtle has four pairs and an unpaired shield and all other Iowa turtles have a plastron composed of six pairs of shields. The maximum size of mud turtles is only a little over four inches in carapace length. It is a rather plain turtle without striking markings.

The two map turtles are found particularly in the larger rivers and their backwaters. The common map turtle *(Graptemys geographica)* has been found only along the Mississippi River and in Floyd County. The Mississippi map turtle or false map turtle *(Graptemys pseudo-geographica)* has been taken in Iowa both in the Mississippi and Missouri River bottoms as well as the Iowa River in Johnson County. The map turtles have a ridge down the center of the carapace as if the backbone were showing through. No other Iowa turtles have such a ridge except young painted turtles. The map turtles also have a pronounced yellow spot behind the eye, rounded in the common map turtle and boomerang-shaped in the false map turtle.

The map turtles' jaws are stout and have broad crushing surfaces which are used in crushing the snails and clams upon which the turtles largely feed. They have been observed to use the claws in getting rid of the larger shell fragments. Map turtles apparently do not hibernate as long as most other species and are usually the first turtles to appear in the spring and the last to disappear in the fall. They have even been seen walking over the lake bottom under the ice in midwinter. Map turtles are usually very shy and are reportedly hard to feed in captivity.

These various small- and medium-sized turtles which are common in our lakes and streams seldom eat fish and are not often accused of eating valuable fish or waterfowl as are the larger snapping turtles. They probably serve a valuable function as scavengers—cleaning up dead fish and other animals which die in the water.

Most of the small turtles which are sold at fairs and in pet shops are young Troost's turtles which are collected in large numbers in states south and east of Iowa. Painting of these turtles is a cruel practice which should be abolished for it usually results in the subsequent death of the turtle and if not fatal, the paint usually results in malformation of the carapace. The paint should be carefully chipped from the turtle, or removed with fingernail polish and carefully rinsed with water, if a painted pet turtle is to be kept. These small turtles are quite hardy if kept warm (about 75°F.) and allowed to bask in the sun. They should have a place where they can retreat from the direct sunlight when they desire, however. Fresh tender vegetables, chopped meat or fish, and earthworms are satisfactory foods. The turtle should be permitted to feed on these items under water since, like most aquatic turtles, it is able to swallow food more easily under water.

RABIED BEAVER

A beaver suffering from rabies was killed by a Boone County farmer on March 2 when the beaver attacked his dog in the farm yard.

Derby Bass, Highway 63 south, was attracted to sounds of a vicious struggle in the yard of his home on the night of March 2. He rushed out of doors and saw a beaver in a struggle with his dog. Bass attempted to drive the beaver off but was forced to kill it with his shotgun when it made attempts to attack him. The animal was a 31-pound male.

Dr. Stanley Smith of the University of Missouri veterinary science department was called to attend to the dog's wounds, and together with Dr. H. Berrier, also of the veterinary department, held a post mortem on the dead beaver. Microscopic examination revealed positive evidence of rabies. Both doctors stated that they knew of no records of rabies occurring in beavers.

Dr. Berrier notified St. Louis authorities of his findings, since a St. Louis man was bitten recently by a beaver near there.

The Bass dog is being kept under close observation at the University clinic.—*Missouri Conservationist.*

'TIS SPRING

Hello my garden, 'tis spring, 'tis spring,
The time of day dreams and wishing.
The worms, I find, are so big and fat. . . .
Good-bye my garden, I'm fishing.

—Lewis Cutting.

Jim Sherman Photo.

For the most part, channel catfish don't move great distances. They are home lovers and are apt to be retaken in the waters of their nativity.

* * * * * *

Catfish . . .

(Continued from page 121)

mation secured from the study, but less glamorous, is the fact that channel catfish ordinarily remain pretty much at home. Over two-thirds of the tagged fish retaken were obtained from fish that had not moved from the point of tagging and four-fifths of the remaining one-third had not moved more than five miles. Thirty of the tags retaken were from fish that had stayed in the same area for a period of from one to four years.

This type of information is of significance and tells us a couple of things about catfish that are important to you as a catfish fisherman. First, as far as your fishing is concerned, the catfish population in a big river like the Mississippi or Missouri will have little if any effect on the number of catfish in your favorite inland stream, particularly if your fishing area is more than just a few miles from these large rivers. In short, the success of your fishing is very largely dependent upon a multitude of conditions in the area in which you fish, and not upon mass upstream migrations.

We know that there are few catfish fishermen who have seen catfish piled up at the foot of dams or running the riffle in the spring of the year. Observations of this type lead to the conclusion that these fish are migrating. Actually the channel catfish are attracted to areas below dams and riffles by the strong current. This attraction is more pronounced as water warms in the spring after the fish has spent the winter in a semi-dormant state. The fastest water in the stream is over riffle areas and at the foot of dams. In the spring of the year fish gather in these areas seemingly for no other reason than to flex their muscles or exercise. Under these circumstances large numbers of fish are often seen at this time. If it were possible to follow an individual fish after its run in fast water, it would probably stop in the pool above or drift back downstream only to run the fast water again. In the latter case, a relatively small number of fish could keep an apparent migration going for days and make it look like a mass movement of fish from downstream.

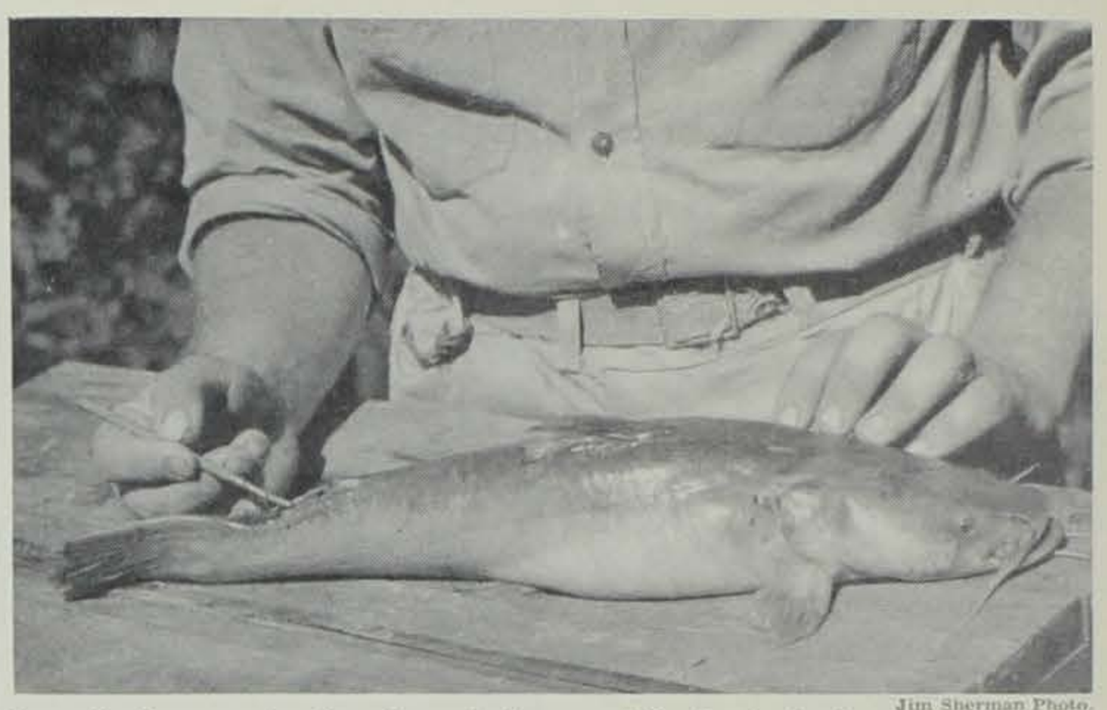
The returns from tagged fish have told the story! Furthermore, it must be remembered if all catfish moved upstream the best fishing would be only in the headwaters with no fishing in the lower or middle reaches of our many inland streams. Actually, fish are a product of environment and the numbers found in any stretch of river depends upon the ability of that portion of the stream to support them.

The return of tags is also shedding light on the growth of catfish under stream conditions. This information is briefly summarized as follows: For catfish less than 12 inches long, growth is rather rapid and amounts to three or four inches a year. After that time growth is considerably slower, and the fish may not gain more than an inch or so a year. However, at these lengths, catfish take on weight proportionately faster, and while they gain only a few ounces per year below a foot in length, they may put on as much as half a pound or more per year after reaching the 12 to 14-inch size.

There are yet many catfish carrying tags in the Des Moines River and its tributaries, and again we would like to ask fishermen to return tags to the Conservation Commission, should they happen to find fish bearing them. Along with the tag we would like also to know where the fish was caught, the date it was taken and its weight and length.

The tags used in this experiment are the so-called internal or belly tag. These were applied to the fish by cutting a small opening in the fish's belly and then inserting the tag through this small incision. Then in order to recognize the fish as having been tagged, the fatty fin called the adipose fin, which is located on the fish's back between its tail and the large top or dorsal fin, was clipped off. Hence, any fish that you catch, on which the adipose fin is missing, has been tagged. The tag can be recovered when dressing the fish by searching for it in among the intestines. These tags are small. They are one-thirty-second of an inch thick by three-sixteenths inch wide by one-half inch long. They are made of aluminum and bear only a serial number.

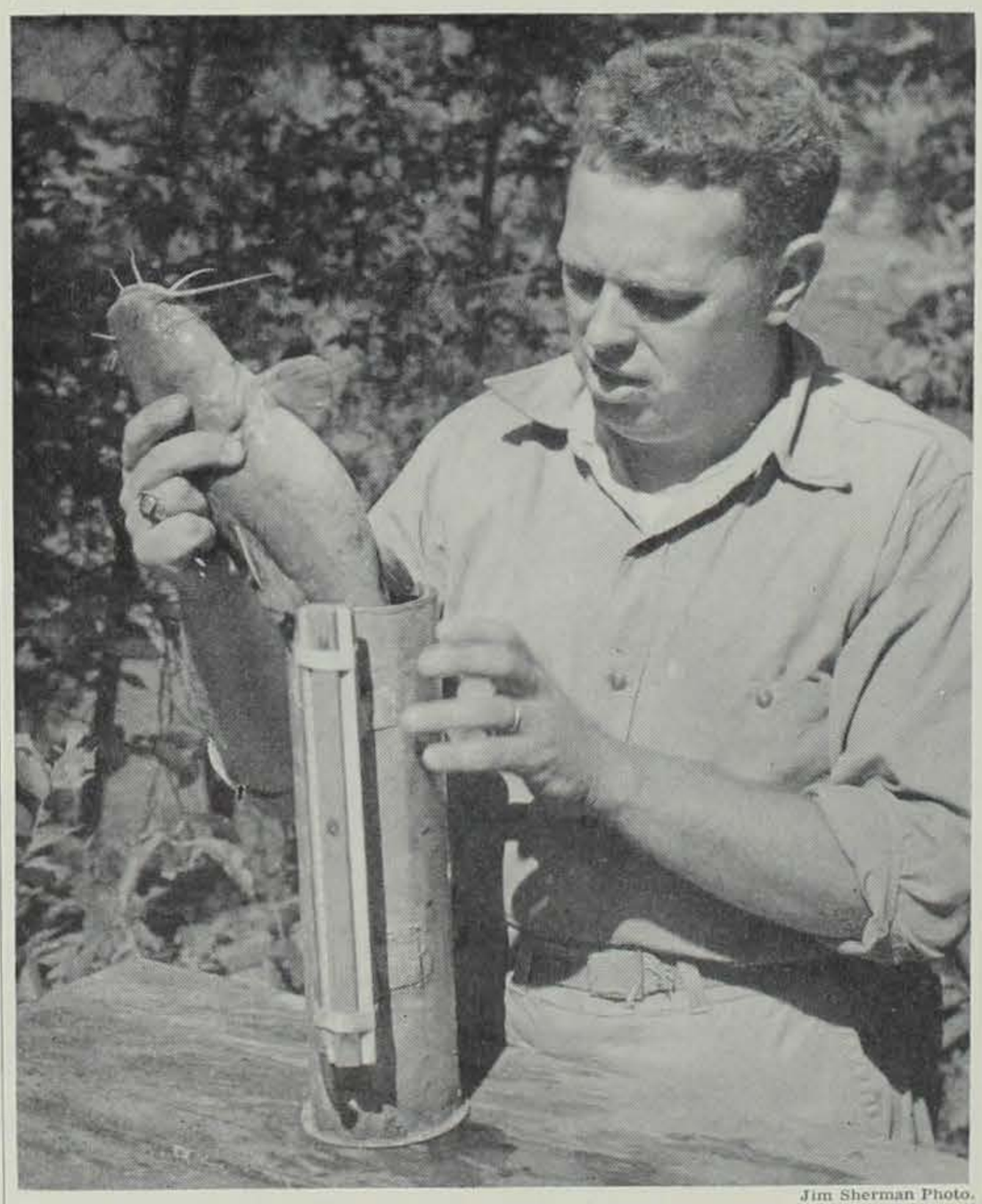
Mr. and Mrs. Catfisherman, please, oh please, watch for finclipped catfish. Find the tag and write to us at the Iowa Conservation Commission, East 7th and Court, Des Moines.



Jim Sherman Photo.

Harry Harrison removing the adipose fin from a catfish after having inserted a small numbered tag in its abdominal cavity.

* * * * * * * * * * * *



Jim Sherman Photo.

Biologist, Harry Harrison, weighing a catfish by water displacement method. Life and growth rate studies are of great value in managing fish populations.

Characters . . .

(Continued from page 121)

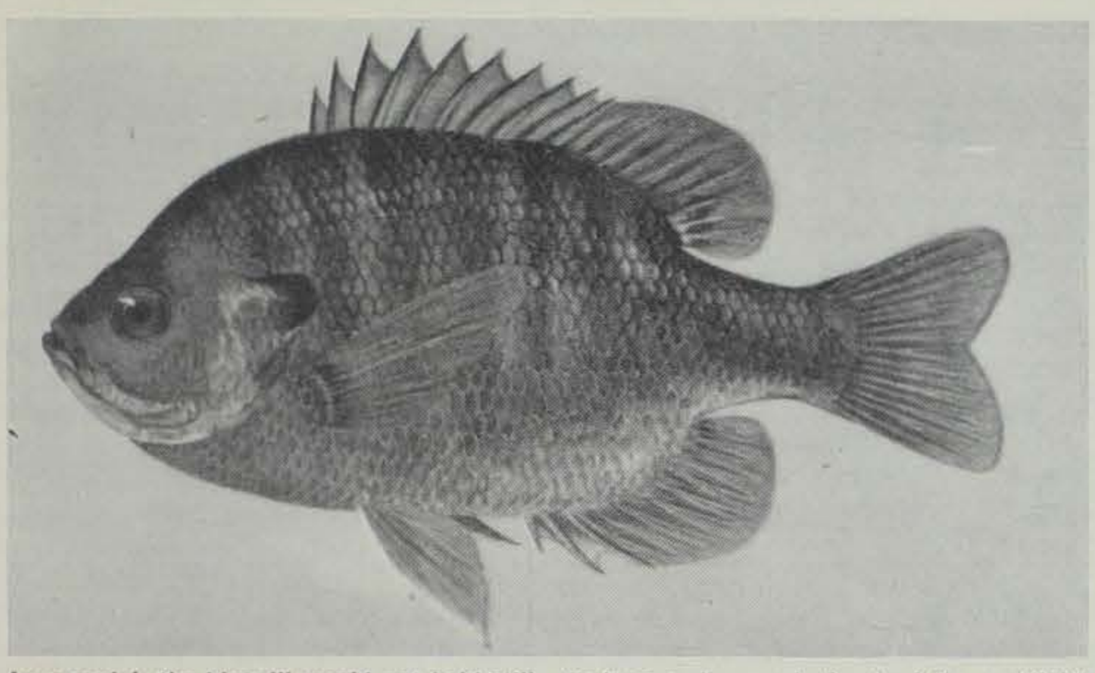
mission, were painted from living fish under conditions as nearly natural as possible.

Healthy specimens were secured from the various lakes and streams of the state and immediately transported to a small aquarium equipped with a constant flowing water supply and an aspirator producing extra oxygen in the water. Only typical fish with no tears or bruises and full complement of scales and fins were used. Special care was taken not to injure the fish when handling.

Even with these precautions only a partial solution to the color problem was solved. Age, sex, season, food supply, mineral content of the water, and temperature, as well as light causes color variations between individuals of the same species. Specimens were chosen where color would most nearly conform to the greatest percentage of fish taken. It would take hundreds of paintings of each species to show all the variations that might be seen.

Once in the aquarium the fish began their unusual modeling ca-

(Continued on page 127)



As a model, the bluegill would not hold still. As long as he was in front of the spotlights he would buck like an outlaw horse. Black-and-white reproduction of the color plate of the bluegill from the new book *Iowa Fish and Fishing*.

* * * * * * * * * * * *

reers. Only one species at a time was kept in the tank, using several individuals to get average coloration.

The stage floor was built of rocks, spotlights were placed, and an inside glass placed in the tank to force the fish close to the front glass. This glass permitted a few curtailed movements but kept the model in a position to provide a side view.

Then it was first learned—and definitely—that fish are "characters." Some of them objected to posing so strenuously that the glass forcing the fish to the front had to be reinforced with rocks and boards to keep the fish confined. Finding that they couldn't move the glass they would start searching out a weak spot in their new prison. A cover had to be placed on top to prevent them jumping out and committing suicide. Every corner was carefully nosed and kicked for a weak spot. Once satisfied that there was no way out, many of the fish gave in and docilely cooperated by showing their best side and character to the artist sitting at his easel two feet away.

But a few of them had many tricks to try. The smallmouth black bass would lay a while on the rocks to rest up, suddenly remember the indignity of the treatment he was receiving, and with a mighty shake, suddenly battle for freedom. His eyes turned a fiery red and colors intensified on his body. Tiring, he would stop to rest —the eyes turning back to a normal reddish-brown with just a tint of bright red remaining.

The smaller fish were confined to a small cage within this glass prison. All but the bluegill. He wouldn't be confined, and ounce for ounce had more strength to batter and move the fortifications than any fish I observed. He wouldn't give up, and as long as he was in front of the spotlights, he would buck like an outlaw horse.

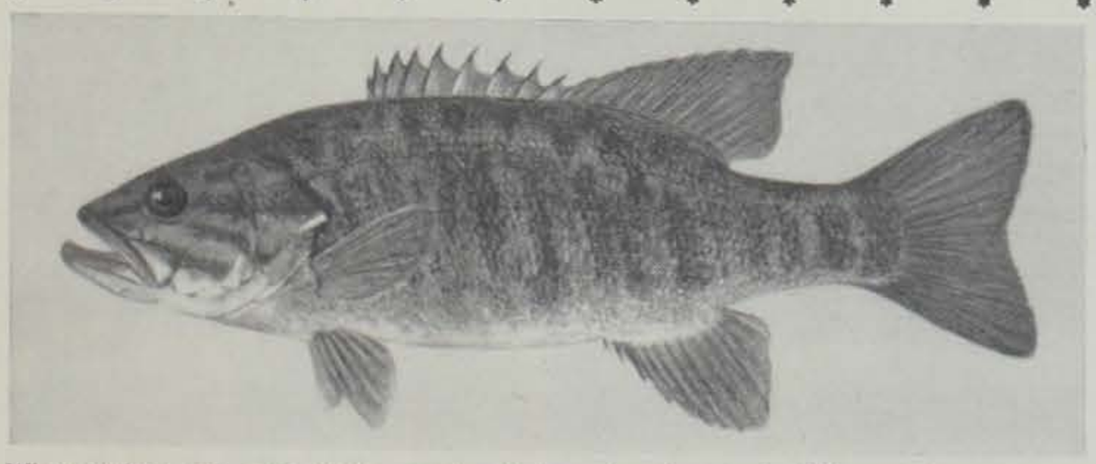
Another strange thing to explain was the aftereffect of lights on the bluegill. Constant spotlight exposure seemed to have no effect on the color, but by suddenly turning it off, the color would instantly fade from the body until the fish looked greenish-white. Slowly the color would return, first the vertical bars or stripes showing, getting constantly darker until the full color of the bluegill would return. This was the only fish studied that produced such a strange transfiguration, though a few changed slightly under the lights.

The fishes that seemed to sense the futility of their predicament and quit fighting, holding a steady position, were the catfishes, northern pike, silver bass, yellow bass, sheepshead, the three species of trout, and green sunfish. This could have been due to some of the fishes natural habits fitting into the problems of the aquarium.

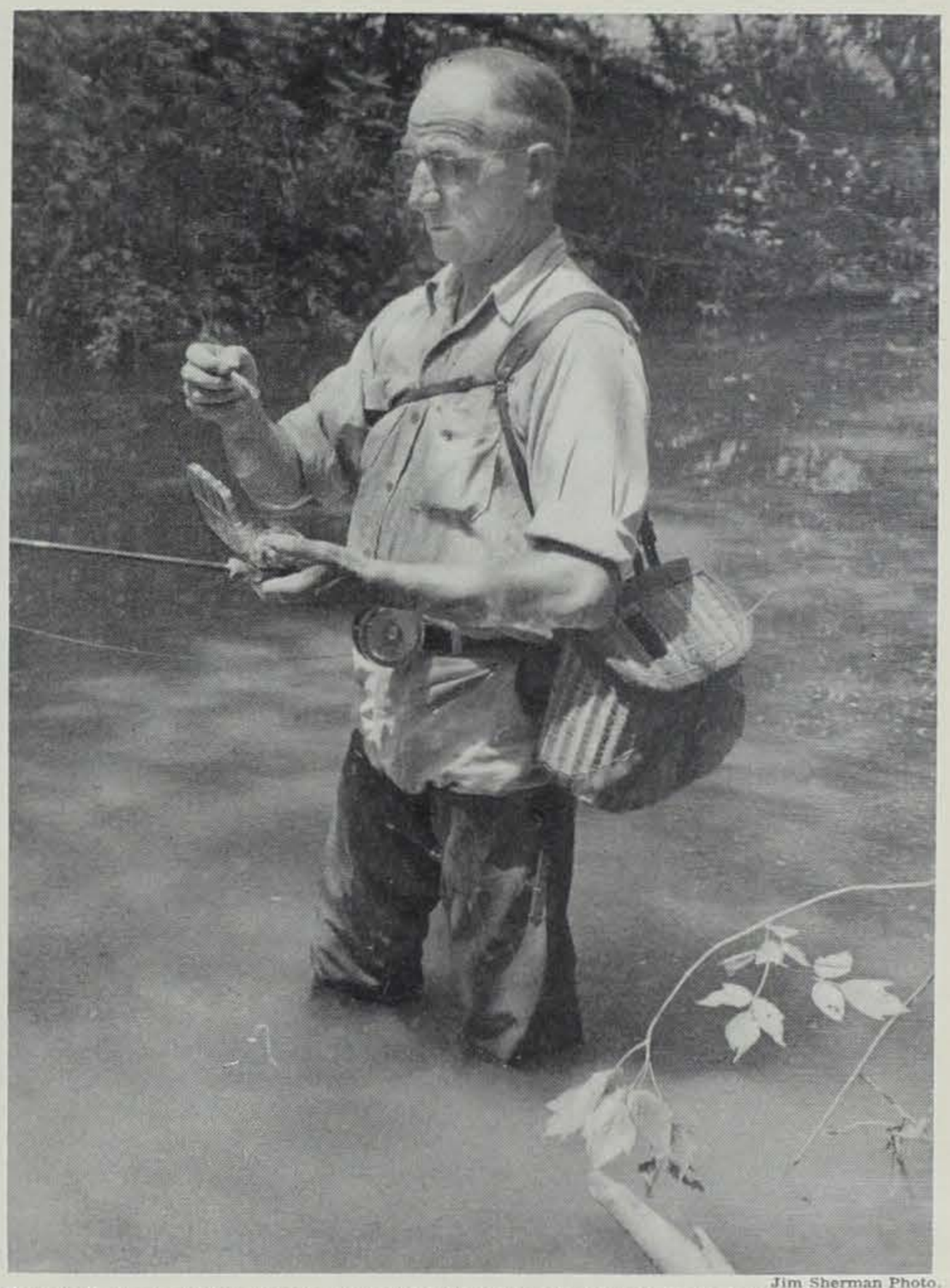
Some of them seemed to doze off to a point where a tap on the glass was needed to get them to pick up a life-like position. The fins of several species proved a serious problem, especially the dorsal fin, as it would contract, preventing a view of the shape and color required to make an accurate painting. This was solved by tapping on the tank or water, startling the fish enough to make him extend his fins. After a few times this trick wouldn't work and they would develop a dormant attitute that seemed impossible to break. Moving the fish with a pointer sometimes had a reverse effect and they would contract fins closer to the body.

After each fish had been fortunate — or unfortunate — enough to have his portrait painted he was released in the stream or lake from whence he came to tell his finny companions of the scale-raising experience he had survived.

* * * * * * * * * * * *



When excited, the eyes of the smallmouth bass turn fiery red. When resting, the eyes return to the normal reddish-brown color. Black-and-white reproduction of the smallmouth bass color plate from the new book *Iowa Fish and Fishing*.



Jim Sherman Photo.

The sections on angling in *Iowa Fish and Fishing* have been prepared by specialists in fishing for each particular species.

* * * * * *

TROLLING FROM MOTOR BOATS NOW LEGAL

The state legislature has enacted a bill that permits Iowans to troll from machine propelled or sailboats on any inland waters of the state, except that on state owned artificial lakes, motor boats larger than five horsepower are not permitted, and no motor boats are permitted on any state owned artificial lake of less than 100 acres in size.

Perch in Clear Lake show a general decrease in growth rate from 1941 to 1949, and compared to perch growth rates in other waters were relatively slow.

Fish Book . . .

(Continued from page 121)

The book is written in layman's language, except for an outstanding new key to identification by Dr. Reeve M. Bailey, Department of Zoology, Michigan University.

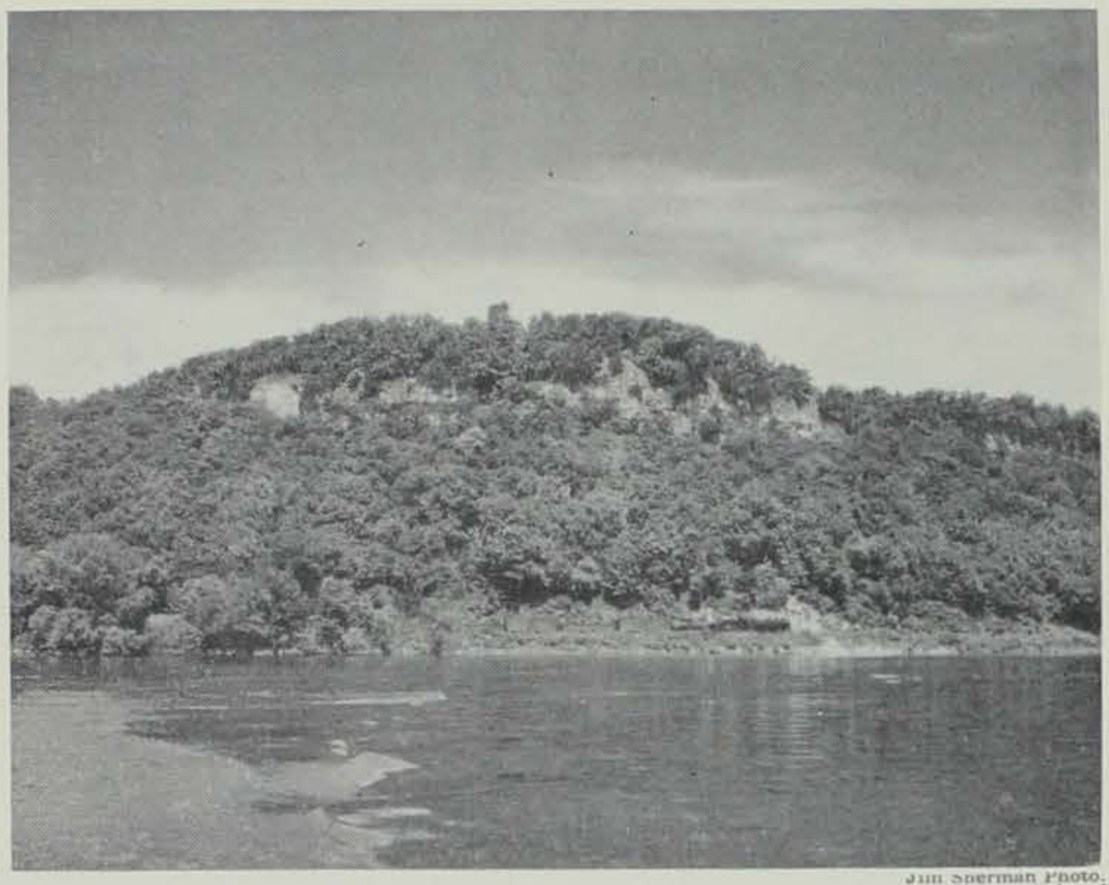
The color portraits of common angling species by Maynard Reece are confidently presented as comparable to the best fish identification plates ever published.

Included in aids to identification are 72 black-and-white photographs by Jim Sherman, Commission photographer, of the more common fishes found in Iowa waters.

The list of chapter headings in *Iowa Fish and Fishing* is as follows: Iowa's Fishing Waters, Introduction to the Fishes, Primitive Fishes, Trout Family, Mooneyes and Herrings, Pike Family, Sucker Family, Minnow Family, Catfish Family, The Eel, Bass Family, Sunfish Family, Perch Family, Miscellaneous Fishes, Some Common Fish Foods, Angling.

Iowa Fish and Fishing will be mailed postpaid to any address in the United States upon receipt of $2.00 at the Commission office. Send cash, check, or money order.

In 50 days with 54 traps, Ted Anderson of Garden Grove caught 111 foxes.



Jim Sherman Photo.
The rock in the Pike's Peak area is known as St. Peter sandstone. It underlies much of Iowa and Illinois and extends into Wisconsin and Minnesota.

* * * * * * * * * * * *

Geology . . .

(Continued from page 122)

what is now Pike's Peak. Then came the glaciers.

North America, as far south as central Missouri and southern Illinois, was covered by a succession of ice sheets. These were glaciers just like those of today in Greenland and Antarctica. Northeastern Iowa was covered only by the first one and that was a million or so years ago. None of the glaciers covered the area across the river in southwestern Wisconsin and northwestern Illinois. This area, being without a deposit of drift left by the glacier, is known as the Driftless Area. It is 10,000 square miles in extent. It was once believed that the northeastern counties of Iowa were in the Driftless Area. However, as time went on, small patches of drift were found. So now we know that the glacier covered the area around McGregor too, but that most of the drift has been since removed by erosion.

Post-glacial erosion did other things. Running water again furrowed the land everywhere, making the country one of hills and valleys. The land here at one time stood much higher than now. The Mississippi River was able to cut farther through the solid rock, and a deep canyon was made. Later lowering of the land resulted in a partial filling of the canyon with sediment from the river. This deposit is about 600 feet thick. If this were removed the canyon at Pike's Peak would be over 1,000 feet deep.

There are many sloughs and ponds along the river here. That is because the river has occasionally shifted its course. The river bed has a slope of only a few feet per mile, and much sediment is deposited in periods of low water. The channel becomes so silted up that the river overflows and finds new channels. Now these sloughs and ponds provide resting places for ducks and other water birds in migration.

Today the river is coming under the control of man. Dam No. 9 is about 15 miles up the river at Lynxville, and Dam No. 10 is near Guttenberg, about 20 miles south. And from Pike's Peak one can look up and down the river for miles, realizing that he is surveying a page in history that extends back for millions of years.

From 1948 through 1950 Pennsylvania paid $267,096 in bounties on predatory birds and mammals.

Klemstra reports finding a young copperhead along Soap Creek in Davis County in 1948.

DEER SHOOTING SOLVED AT ALGONA

The mysterious shooting of a doe deer southwest of Algona last fall was solved recently when two local youths admitted the killing, and also confessed to stealing over $300 worth of merchandise from glove compartments of cars parked here a week ago Sunday night.

The boys are brothers and are only 13 and 14 years old. For this reason their names have been withheld by police pending juvenile court action.

Most of the loot taken from the parked cars a week ago Sunday was recovered including a .22 revolver, a .22 automatic pistol, five cameras, a short bayonet, seven flashlights and several pairs of gloves. The boys also said they threw away several things for which they had no use.

When they admitted shooting the deer, it solved a long standing mystery which had been puzzling Conservation Officer Wendell Simonson since last fall. The deer was shot with a .22 rifle and left where it fell—*Fort Dodge Messenger.*

4-H Club . . .

(Continued from page 122)

More than 10 million boys and girls have participated in conservation projects on their home farms since Mr. Horn began his sponsorship of the conservation program 17 years ago. Many of them now occupy responsible positions in professional soil, water, forestry and wildlife management work.—Wildlife Management Institute.

Values . . .

(Continued from page 123)

included in this estimate, which therefore is a minimum.

Nor are these values of the far away and high off variety. They affect us all personally, definitely and locally, wherever we reside. One might say especially in Oklahoma, where our broad acres possess much store of game and almost limitless fisheries. No adequate local wildlife values are known, but we may get some notion of the situation from a recent study in Ohio. This investigation showed that no less than $85,000,000 was spent in hunting and fishing there in a single year. In Ohio 9,158 individual businesses are dependent on wildlife. Twenty-one kinds of business handle required equipment. Thirty-eight per cent of the total income of hardware stores is derived from the sports of hunting and fishing!

But what about the esthetic phases we started out with? Like the broadminded and realistic leader he is, Dr. Gabrielson estimated the esthetic value of wildlife resources should be set at ten times the commercial capital value, for a grand total of one hundred forty billions of dollars!

All right, you can set forth the value of a sunset, of a glorious landscape, of the clean countryside, if you want to. But so far as I am concerned, any number of millions or even billions of dollars mean very little to me. I am persuaded that the value of the wildlife to the American citizen is one of those intangibles that, like the smile of a child, defies all estimate.—*Oklahoma Game and Fish.*

ORIGIN OF 'PLINKING'

By Louis J. Dehner

The word "plinking" is used to describe the practice of shooting at random targets and is indulged in by many devotees of the popular ".22," but we wonder how many shooters know how that word originated.

Frankly, we didn't know until recently we were reading a story about the famous and fabulous "Ad" Topperwein and his wife whose given name was Elizabeth but whose nickname was "Plinky." The word originated with Mrs. Topperwein who had a habit of saying "Plink" every time she pulled a trigger.

Popular imagination has stamped Annie Oakley as one of the greatest women shots of all times but she couldn't hold a candle to Mrs. Topperwein who passed away in 1945. Annie was a trick shooter who employed many artifices and was to some degree a conjurer, but not so with "Plinky," who still holds a record of breaking 1,952 clay birds out of a possible 2,000 in a time space of 3 hours and 15 minutes and you might say that is really doing a lot of trap shooting.

Her husband, "Ad," who retired recently at the age of 82 after 50 years of exhibition shooting for Western-Winchester, also holds many records. The best one was that in 76 years of shooting he never had one single accident which is quite a tribute. He was the originator of shooting pictures with his .22 (several copies of his famous Indian chief are owned by Burlington residents). The Topperwein's last exhibitions were held during World War II in training camps in the south and southwest. —*Burlington Hawkeye Gazette.*

* * * * * * * * * * * *

Jim Sherman Photo.
The word "plinking" is used to describe the practice of shooting at random targets and is indulged in by many devotees of the popular .22.